San Francisco wind and lightning caused considerable damage and interrupted telegraphic communication. The high winds of the month were anticipated by storm-warning displays.

The only important cold wave of December, 1900, extended from the British Northwest Territory over the interior and western parts of the country during the last three days of the month, causing frost in the valleys of southern California and in Arizona, and carrying the line of freezing temperature into northern Mexico the night of the 31st. On the morning of the 30th special warnings of cold and frost were given the widest possible distribution in southern California, Utah, and Arizona.

Heavy snow fell in the States of the lower Missouri Valley on the 22d. On the 30th, Iowa, Kansas, Nebraska, northern Missouri, and Colorado were swept by cold northerly winds and heavy snow. The storm of the 30th formed a part of the cold wave which covered the greater part of the country during the closing days of the month.

CHICAGO FORECAST DISTRICT.

Storm warnings were ordered at all upper lake ports on the 8th and on Lakes Michigan and Huron on the 12th. After the close of the general navigation season advisory messages were sent to ports on Lake Michigan, where a winter service is maintained. The only cold wave which swept the entire district developed in the British Northwest during the 29th. Cold wave warnings were sent to the extreme Northwest the afternoon of the 29th, and the warnings were extended during the next twenty-four hours over the entire district. The cold wave moved in with great force, and very low temperatures were reported at many stations.—*H. J. Cox, Professor.*

SAN FRANCISCO FORECAST DISTRICT.

Storm warnings were displayed on the middle and north California coast on the 12th and 13th, and on the morning of the 14th the warnings were extended to Port Harford with advisory messages to points farther south. A storm of considerable intensity was fairly in on the north Pacific coast by the morning of the 14th. Both the storm warnings and the rain forecasts were verified. A squall of much violence passed over San Francisco about 1.20 p. m., seventh-fifth meridian time, December 14. At least six flashes of lightning were noted. The wind blew at the rate of 60 miles an hour for one minute and the velocity for five minutes was about 48 miles. The rains of the 16th, 17th, and 18th were forecast, with the exception of southern California, where forecast of showers were not verified. The heavy frosts of the 29th, 30th, and 31st were forecast, and on the morning of the 30th special warnings were sent to 73 places in Utah of much colder weather Monday morning, and to southern California and Arizona giving warning of heavy frost.—*A. G. McAdie, Forecast Official.*

PORTLAND, OREG., FORECAST DISTRICT.

From the 1st to the 12th the month was uneventful. From the 12th to the 21st, inclusive, a succession of severe southerly gales prevailed on the coast and high southerly winds were of frequent occurrence in the interior. A stormy period lasting forty-eight hours set in the evening of the 24th. Both stormy periods were successfully forecast, and storm warnings were displayed during the entire time of danger at the mouth of the Columbia River and at the entrance to the Strait of Juan de Fuca, while advisory messages noting each storm's progress and development were sent as often as necessary to other seaports within the district. Many vessels remained in port during the displays, and a number of requests for special forecasts were made by masters. A few vessels proceeded to sea without heeding the warnings and their experience, together with that of other vessels which left port several days before notice of the storm's approach could be given, as well as the experience of inward bound vessels, is best told in the accompanying table (not published) compiled from the daily newspapers. The table referred to gives the names of the vessels damaged by storms during the month, and the extent of the damage caused, together with the ports arrived at and departed from with dates of arrival and departure.

A river forecast was issued on the 21st announcing a stage of about 14 feet in the Willamette on the 24th. A stage of 13.1 feet was reached on the 24th. The forecast was of value as it quieted the fears of those who thought the danger line of 15 feet would be passed.—*E. A. Beals, Forecast Official.*

AREAS OF HIGH AND LOW PRESSURE.

During the month there were charted eleven highs and twelve lows. A brief description of their more prominent characteristics is given herewith.

Highs.—The practically permanent winter high over the Plateau region which had prevailed during more than two-thirds of the previous month, continued throughout the month with but three day's interruption, on the 14th, 20th, and 21st. There was also a high stationary on the south Atlantic coast from the 14th to the 19th, inclusive.

The principal tracks of the charted highs were either southeastward from the British Northwest Territory to the middle Mississippi Valley, and thence eastward to the Atlantic coast between latitudes 35° and 40°, or else directly eastward across Canada. No. III divided at its place of origin in Manitoba, one section moving directly eastward over Canada to the Atlantic Ocean, and the other due southward to eastern Texas, where it dissipated. No. XI also divided after traveling to Manitoba from eastern British Columbia, one section moving eastward to central Ontario, where it disappeared, and the other southeastward by way of Lake Michigan and the State of Ohio to the southern New Jersey coast.

Nos. I, II, VII, and VIII all originated in the eastern half of the country, and were only of moderate intensity. No. VIII was a south Atlantic coast high that passed into the ocean after reaching the North Carolina coast. It was last observed about 300 miles north of the Island of Bermuda, traveling northeastward.

Lows.—All the lows, with the exception of Nos. V, IX, and XII originated west of the one hundred and tenth meridian, and five of them north of the fiftieth parallel. No. V originated in southeastern Texas, moved eastward to the Atlantic Ocean, and was last noted at the Island of Bermuda. No. IX also originated in eastern Texas, and moved eastward to the south Atlantic coast, from whence it turned northward along the coast, disappearing to the eastward after reaching the Nova Scotia coast. No. XII originated in the Texas panhandle, and dissipated in central Pennsylvania after a rapid existence of only twenty-four hours. Nos. I and XI were of a similar type. At the outset each consisted of two widely separated storms, one section originating in Alberta and the other in southeastern Texas. The lower ones moved northeastward through the east Gulf and Atlantic coast States. The two sections of No. I united over southern New York, and thence continued as one storm northeastward to the Atlantic Ocean by way of St. Johns, N. F. The lower section of No.